Appendix D

```
' ***** LCD PANEL *****
' PIC16F819

'* SET UP BASIC ENVIRONMENT
        DEFINE CHAR_PACING 1000

' PORTA.0 = CURRENT SENSE
' PORTA.1 = POT
' PORTA.2 = THERMISTOR
' PORTA.3 = VOLTAGE SENSE
' PORTA.4 =
' PORTA.5 =


' PORTB.0 =
' PORTB.1 =
' PORTB.2 =
' PORTB.3 = NPN
' PORTB.4 = PNP
' PORTB.5 =
' PORTB.6 =
' PORTB.7 =


'****************************************************************
'*                                                            *
'*                      ENVIRONMENT                           *
'*                                                            *
'****************************************************************


        DEFINE CHAR_PACING 1000

'****************************************************************
'*                                                            *
'*                      VARIABLES                             *
'*                                                            *
'****************************************************************

N           VAR     BYTE    BANK0
X           VAR     BYTE
Y           VAR     BYTE
Z           VAR     BYTE

X2          VAR     WORD    BANK0
Y2          VAR     WORD

MISCF       VAR     BYTE    BANK0

LCNT        VAR     BYTE
VOLTS       VAR     WORD    BANK0
VOUT        VAR     WORD    BANK0
CURRENT     VAR     WORD    BANK0
AMP         VAR     WORD    BANK0
TEMP        VAR     WORD

ALOOP       VAR     BYTE
ELOOP       VAR     BYTE
PVOLT       VAR     BYTE    BANK0

BUCK        VAR     BYTE

ssave   VAR BYTE BANK0 SYSTEM
psave   VAR BYTE BANK0 SYSTEM
isr1    VAR BYTE BANK0 SYSTEM
icnt    VAR BYTE BANK0 SYSTEM
wsave   VAR BYTE $20 SYSTEM
wsave1  VAR BYTE $A0 SYSTEM


'****************************************************************
'*                                                            *
'*                    START OF PROGRAM                        *
```